

Claims

1. Method of recording and processing data concerning business transactions in a computer system with at least one processing unit, at least one storage unit, input means and output means and with data communication means which connect the input and output means and the units of the computer system to one another,

wherein the data concerning a business transaction specify its type and time and values of the business transaction which are associated with this time and indicate changes, and associated with each business transaction are predetermined accounts in which the values of the business transaction should effect a corresponding change in account values,

wherein at least one ledger structure is provided which has a store structure for ordered storage of book data sets, each book data set being associated with a business transaction,

wherein each book data set has associated with it a record identifier which unambiguously characterises the ledger structure and the book data set in the ledger structure, and each book data set has an account identifier,

wherein the account identifier identifies at least two selected accounts which depend upon the type of business transaction, one of the at least two selected accounts being a book account with which the ledger structure is associated, and the further of the at least two selected accounts being cross-accounts associated with the book account,

wherein for each account an account object is formed, each account object having an identifier data structure and a store structure for ordered storage of partial entry data sets, and each partial entry data set of the store structure contains the record identifier of a book data set associated with it as well as at least one value of a business transaction which should effect a corresponding change of account values,

wherein in the recording of data concerning a business transaction the following steps are carried out:

- (a) selection of a ledger structure, an account object of a book account with which the selected ledger structure is associated, and at least one account object of a cross-account as a function of the type of business transaction and reading in of the data concerning the business transaction;
- (b) generation of a book data set and at least two partial entry data sets from the read-in data and ordered storage of the book data set is stored in order in the selected ledger structure;
- (c) sending of the at least two partial entry data sets to the appertaining account objects of the book account and of the cross-account or the cross-accounts, the partial entry data sets containing the values of the business transaction which should effect corresponding changes of account values; and
- (d) receipt of the partial entry data sets are received in the account objects and ordered storage of the partial entry data sets in the appertaining store structures.

2. Method of recording and processing data concerning business transactions as claimed in Claim 1, characterised in that

the account objects each have at least one collective store structure,

wherein each collective store structure comprises a plurality of data storage fields, each data storage field being associated with a time interval having a start time and an end time within a calendar year and storing a sum value,

wherein the start and end times of a first number of data storage fields are chosen so that the time intervals each correspond to a calendar month,

wherein each sum value is produced from a start value and addends, the addends being in each case a predetermined function of the values of a business transaction of which the time falls within the time interval and with which the account of the account object is associated, and

that in step (d) the collective store structures are updated by adding up the addends formed from the values of the business transaction contained in the partial entry data sets in the data storage fields corresponding to the time of the business transaction.

3. Method of recording and processing data concerning business transactions as claimed in Claim 2, characterised in that

the collective store structures have a second number of data storage fields in which the start and end times are chosen so that the time intervals in each case correspond to a calendar day, and

that not only the time intervals of the first number of data storage fields which each correspond to a calendar month but also the time intervals of the second number of data storage fields which each correspond to a calendar day completely cover the time interval of a calendar year once.

4. Method of recording and processing data concerning business transactions as claimed in Claim 3, characterised in that the plurality of data storage fields comprises at least one data storage field of which the time interval corresponds to the entire calendar year.

5. Method of recording and processing data concerning business transactions as claimed in one of Claims 2 to 4, characterised in that the start values of the data storage fields can preferably be set (i) to equal zero, (ii) to a sum value of a data storage field of the same collective store structure or (iii) to the sum value of a data storage field of another collective store structure of the account object.

6. Method of recording and processing data concerning business transactions as claimed in one of Claims 2 to 5, characterised in that the predetermined function according to which the addends are calculated from the values of the business transaction comprises

- (i) setting of the addend to equal to a value of the business transaction so that the sum value corresponds to a balance,
- (ii) setting of the addend to equal to a value of the business transaction so long as this is greater than zero; otherwise the addend is set equal to zero so that the sum value corresponds to a credit balance,
- (iii) setting of the addend to equal to a value of the business transaction so long as this is less than zero, and otherwise is set to zero so that the sum value corresponds to a debit balance,
- (iv) multiplication of a value of the business transaction by a constant factor, or
- (v) multiplication of a value of the business transaction by a variable factor held in a data storage field of a further collective store structure which corresponds in the time interval.

7. Method of recording and processing data concerning business transactions as claimed in one of Claims 1 to 6, characterised in that the store structure for ordered storage of the book data sets of the ledger structure and the store structures for ordered storage of the partial entry data sets of the account objects are preferably sorted or indexed lists or tables which are sorted or indexed according to the serial number of the entry of the data sets or according to the time of the business transaction.

8. Method of recording and processing data concerning business transactions as claimed in one of Claims 1 to 7, characterised in that the identifier data structure has a character string and/or number which unambiguously denotes the account object.

9. Method of recording and processing data concerning business transactions as claimed in one of Claims 1 to 8, characterised in that the identifier data structures of the account objects of the book accounts each contain an indication of the cross-accounts which can be associated with them, wherein in step (a) the at least one account object of a cross-account is selected as a function of the indication of the cross-accounts which can be associated with the book account.

10. Method of recording and processing data concerning business transactions as claimed in Claim 9, characterised in that the identifier data structures of the account objects of the cross-accounts each contain an indication of those accounts with which they can be associated as cross-accounts, wherein in step (a) the at least one account object of a cross-account is selected as a function of its display of those accounts with which it can be associated as cross-account.

11. Method of recording and processing data concerning business transactions as claimed in one of Claims 2 to 6, characterised in that

analysis diagrams are provided which have positions with position values, wherein changes of account values effect changes of predetermined position values,

wherein for at least one selected position of an analysis diagram an analysis object is formed which has an identifier data structure and at least one collective store structure,

wherein the makeup of the collective store structure of the analysis object corresponds to the makeup of the collective store structure of an account object,

wherein in the collective store structure of the analysis object the addends are a predetermined function of those changes of account values which are effected on the basis of business transactions of which the time falls within the time interval,

wherein in the recording of the data of a business transaction the following further steps are carried out:

- (e) generation of at least one update data set, which is determined for a selected position of an analysis diagram from the values of the business transaction contained in a partial entry data set, in at least one account object of those account objects which have received a partial entry data set, and sending of the update data set to at least one analysis object associated with the account object; and
- (f) reception of the update data set in the at least one associated analysis object and updating of the collective store structure of the analysis object by adding up the addends formed from the values contained in the update data set in the data storage fields corresponding to the time of the appertaining business transaction.

12. Method of recording and processing data concerning business transactions as claimed in Claim 11, characterised in that for the partial entry data sets and the update data sets a standard format is used and that messages of a standard format are generated for sending the partial entry data sets and the update data sets to the account objects or analysis objects.

13. Method of recording and processing data concerning business transactions as claimed in Claim 11 or 12, characterised in that the identifier data structure of the account object generating the update data set preferably has a list of analysis object identifiers of the associated analysis objects.

14. Method of recording and processing data concerning business transactions as claimed in one of Claims 11 to 13, characterised in that

the analysis diagrams have positions of a lowest level with which predetermined collective store structures of predetermined account objects are associated,

that as a function of an output command indicating an analysis time in a financial year a graphic output of an analysis diagram is generated via an output means, and in this graphic output

the total of the sum values of those data storage fields of the collective store structure of the account object of which the time intervals cover the time period from the beginning of the financial year up to the analysis time is output at each position of the lowest level which is associated with an account object,

the total of the sum values of those data storage fields of the collective store structure of the respective analysis object of which the time intervals cover the time period from the beginning of the financial year up to the analysis time is output at the selected positions which are associated with analysis objects, and

at the remaining positions values are output which are calculated from the values of other positions.

15. Method of recording and processing data concerning business transactions as claimed in Claim 14, characterised in that

input buffer stores in which the incoming values of the partial entry data sets or update data sets are buffered until the respective collective store structure can be updated with the values are preferably associated with the collective store structures of the account objects and analysis objects, and

during the graphic output of an analysis scheme an instruction is generated for the user if the input buffer store still contains values with which a time before the analysis time is associated.

16. Method of recording and processing data concerning business transactions as claimed in Claim 14 or 15, characterised in that a balance sheet, a profit and loss calculation, a turnover statistic or another business management analysis for a company or a group is represented by the graphical output of an analysis scheme.

17. Method of recording and processing data concerning business transactions as claimed in one of Claims 11 to 16, characterised in that

all account objects have a first collective store structure of which the sum values correspond to an amount which relates to a first unit, preferably to a national currency, and

that at least one account object has at least one second collective store structures of which the sum values correspond to an amount which relates to a second unit, for example to a foreign currency, a number of items, a mass or a volume.

18. Method of recording and processing data concerning business transactions as claimed in Claim 17, characterised in that all analysis objects have a first collective store structure of which the sum values correspond to an amount which relates to a first unit, preferably to a national currency.

19. Method of recording and processing data concerning business transactions as claimed in one of Claims 1 to 18, characterised in that

the ledger structure and/or the account object of the book account are selected as a function of a user input, and

that the at least one account object of the at least one cross-account is selected as a function of the input of a part of the data concerning the business transaction which contains at least the type of business transaction.

20. Method of recording and processing data concerning business transactions as claimed in Claim 19, characterised in that the user input comprises a selection of a graphical tree structure displayed to the user on an output means.

21. Method of recording and processing data concerning business transactions as claimed in Claim 19 or 20, characterised in that a further cross-account is always offered to the user for selection when it is apparent that a total of predetermined values of the partial entry data sets of the already selected accounts created on the basis of the data concerning the business transaction is not equal to zero.

22. Method of recording and processing data concerning business transactions as claimed in one of Claims 1 to 21, characterised in that the data read in in step (a) are held in a buffer store in a pre-recording mode until

all appertaining account objects are selected,

the book data set and the partial entry data sets have been generated and

the partial entry data sets have been checked at least to establish that a total of predetermined values of the partial entry data sets created on the basis of the data concerning the business transaction is equal to zero.

23. Method of recording and processing data concerning business transactions as claimed in Claim 11, characterised in that all the account objects and analysis objects each contain at least one actual collective store structure for the current calendar year which store values resulting from business transactions actually concluded.

24. Method of recording and processing data concerning business transactions as claimed in Claim 23, characterised in that all the account objects and analysis objects each contain at least one actual collective store structure for one or more elapsed calendar years which store values resulting from business transactions actually concluded.

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25. Method of recording and processing data concerning business transactions as claimed in Claim 23 or 24, characterised in that account objects and analysis objects selected for planning each have at least one plan level collective store structure for the current calendar year and one or more future calendar years which store values resulting from planned business transactions.

26. Method of recording and processing data concerning business transactions as claimed in Claim 25, characterised in that the account objects and analysis objects can each have at least one process level collective store structure for the current calendar year and one or more future calendar years which store values which result from the values of the plan level collective store structures and/or from values for uncompleted business transactions resulting from purchase, storage, production and/or sales agreements to be implemented in the respective calendar year.

27. Method of recording and processing data concerning business transactions as claimed in Claim 25 or 26, characterised in that the account objects and analysis objects in each case have at least one further collective store structure for the current calendar year and a future calendar year which store values which relate to a liquidity resulting from the planned values and the actual values.